Managing Change:
Enabling the Shift to Sustainable Energy

Torstein Indrebø, Secretary General
International Gas Union

Geneva, 28 November 2012
IGU represents more than 95% of the global gas market

83 Charter Members
39 Associate Members

Established in 1931
Global energy issues

- Energy security and access
- Competitive energy
- Sustainable energy systems

Need a balanced and realistic approach
World Gas Reserves

[Map showing gas reserves by region: OECD North America, OECD Europe, Eastern Europe/Eurasia, Asia Pacific, Middle East, Latin America, Africa. The map includes a legend for gas resources (tcm): proven reserves and other recoverable conventional gas, and recoverable unconventional gas.]
World Natural Gas Prices

Source: World Bank
The Pathway towards a Sustainable Future

Meeting future global energy needs whilst addressing air quality and climate change concerns

Global Emissions Trajectory Base Case

- Other
- Residential and Commercial
- Industrial
- Transport
- Power Generation
- Pathway

CO₂ Emissions (billion tons)

1990 2000 2010 2020 2030 2040 2050
Gas in the power sector

Gas burns with emissions lower than coal:

- CO$_2$: 50%
- CO: 81%
- SO$_x$: 100% - acid rain
- NO$_x$: 80% - air quality
- Particles/soot: 99.99% - air quality
- Hg (Mercury): 100%
Natural gas enables renewable energy

Natural Gas - Wind - Solar

An ideal combination
Gas for transportation

Marine

Fleets:
• Trucks
• Buses
• Taxis

Road

Public health - air quality
Economics and job creation

- Economic development and job creation
- Build on existing energy system investments
- Gas industry contributes to public finances
IGU Vision Pathway - various CO$_2$ abatement options and technology choices

Calculation for 2050

CO$_2$ Emissions (billion tons)

- Base Case
- Reducing Demand
- Coal to Gas Substitution
- Oil to Gas Substitution
- Transport Oil Substitution
- Renewables and Nuclear
- Biogas
- Carbon Capture
- Pathway

Reductions from Greater Gas Use
Reductions from Other Technologies
Reductions from Both Greater Gas Use and Other Technologies
IGU´s Pathway Trajectory: Global Emissions Reductions, by Consumer Sector
Some facts:
- More than 1.4 bn people without access to electricity
- Some 2.5 bn people use traditional biomass for cooking & heating

Need for:
- Electricity 24 h / 7 days
- Clean energy to ensure a healthy living
- Enhanced economic development & more jobs

Investment barriers have to be overcome
Need for political, legal and regulatory framework.
Gas and Social Development

Indoor air quality

Petrochemical Feedstock

Fuel for Commercial

Fuel for Industry
Creating Trust for Gas

- Recognition by policymakers
- Licence to operate

GHG Emissions Spectrum

Image of Gas
A robust and sustainable energy policy

• Energy efficiency & savings
• Use more gas in power generation and transportation
• Phase in renewable energy
• Develop Carbon Capture and Storage technology

Gas: The fuel of today and tomorrow!
Among our publications: http://www.igu.org

Global Vision for Gas
The Pathway towards a Sustainable Energy Future

Shale Gas
The Facts about the Environmental Concerns
Thank you for your attention!

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